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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/816,830

04/05/2004

Shinichiro Minato

1259-0248PUS1

2715

2292 7590 01/17/2007  
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EXAMINER

SMITH, NICHOLAS A

ART UNIT

PAPER NUMBER

1742

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
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3 MONTHS

01/17/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/17/2007.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/816,830	<b>Applicant(s)</b> MINATO, SHINICHIRO	
	<b>Examiner</b> Nicholas A. Smith	<b>Art Unit</b> 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 23 October 2006 has been entered.

### **Status of Claims**

2. Claims 1-6 remain for examination.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admission in the background section of the specification of the instant application (page 1 line 14 - col. 2 lines 8) in view of Balisky (US 6,521,112) as evidenced by Nishino et al. (US 5,152,877) and as evidenced by Graf (US 2001/0015323).

5. Regarding claim 1, the applicant admits (page 1 line 14 - col. 2 line 8) a method for controlling a concentration of an electrolytic solution for making an electrolytic treatment of a metallic material, comprising the steps of: measuring a acid concentration

Art Unit: 1742

of acid in said electrolytic solution; measuring a salt concentration of salt which is generated by ionizing part of said metallic material in said electrolytic solution in said electrolytic treatment; and using a controller for controlling the concentration of each component in the electrolytic solution, which would inherently include adding at least one of a dilution liquid and a fresh acid according to said measured acid concentration and said measured salt concentration, as evidenced by Graf's method of adding fresh electrolyte (containing acid) or diluting by means of water (paragraph [0027]). With respect to the generating a salt concentration by ionizing part of said metallic material in said electrolytic solution, the Examiner asserts that the electrolytic roughening of the admitted prior art would inherently include generating a salt concentration by ionizing part of said metallic material in said electrolytic solution as evidence by Nishino et al. (col. 7, lines 22-42). In regards to electrolytic solution in an electrolytic treatment bath, the specification does positively locate the electrolytic solution in an electrolytic treatment bath (page 1 lines 18-23) and therefore fulfills this claimed locational requirement in the steps of electrolytic treatment, measuring acid and salt concentrations and generating a salt concentration.

6. Still regarding claim 1, the admission does not include adding at least one of a diluting liquid and a fresh acid according to a current value of said electrolytic current supplied during said electrolytic treatment. The admission does not specifically disclose controlling a concentration of an electrolytic solution in a solution tank. The admission does not specifically teach adding at least one of a diluting liquid and a fresh acid to said electrolytic solution in said solution tank. The admission does not specifically

Art Unit: 1742

disclose feeding said electrolytic solution in said solution tank to said electrolytic treatment bath.

7. However, Balisky teaches (abstract) a method of controlling the content of an electrochemical bath, wherein replenishment of the constituents of the bath is determined in response to measurement of the ampere-hours (i.e. current value) in order to replenish constituents as they actually are consumed. Balisky also teaches wherein such fresh acid solution (Figure 1, **16**) is added to electrolytic solution in solution tank (Figure 1, **14**). Balisky also teaches wherein feeding electrolytic solution in solution tank (Figure 1, **14**) to electrolytic treatment bath (Figure 1, **10**). It is noted that electrolytic solution fed from solution tank **14** passes through treatment tanks **18** and **12** before arriving at electrolytic treatment bath **10**. It would have been obvious to one of ordinary skill in the art to modify the method of the admitted prior art by replenishing the diluting liquid or acid constituent according the current value of the electrolytic current supplied during the electrolytic treatment in order to replenish the constituents as they are actually used. It would have been obvious to one of ordinary skill in the art to modify the method of the admitted prior art by such a solution tank and piping in order to accurately replenish and control electrolytic solution concentrations (Balisky, col. 2 line 63 to col. 3 line 31). Furthermore, the admission in view of Balisky would inherently disclose controlling a concentration of an electrolytic solution in a solution tank **14** as evidenced by Graf (paragraph [0027]) since in the instant case fresh electrolyte solution is added to solution tank **14** from tank **16**.

8. Regarding claim 2, the method of the admitted prior art does not specifically disclose include calculating a feed cycle of adding a predetermined amount of said diluting liquid from said measured salt concentration and said current value.

9. Balisky teaches calculating a feed cycle of adding a predetermined amount of said diluting liquid from said measured salt concentration and said current value (col. 3, line 51 to col. 4, line 41). It would have been obvious to one of ordinary skill in the art to modify the method of the admitted prior art by Balisky's calculating a feed cycle in order to precisely replenish the electrolytic bath (Balisky, col. 3, lines 56-62).

10. Regarding claim 3, Balisky teaches adding a correction value to measured acid concentration to obtain a corrected acid concentration being set as a new measured acid concentration (col. 4, lines 55- 67). It would have been obvious to one of ordinary skill in the art to modify the method of the admitted prior art by Balisky's adding a correction value in order to precisely replenish the electrolytic bath (Balisky, col. 3, lines 56-62). The method of the admitted prior art in view of Balisky would inherently include calculating a difference from said measured acid concentration to an objected acid concentration; and adding said fresh acid to said electrolytic solution when said difference is larger than a predetermined limit value.

11. Regarding claim 4, lines 1-13, the admitted prior art in view of Balisky as evidenced by Graf and Nishino et al. is applied to the claim as stated above in paragraphs 5-9. The method of the admitted prior art in view of Balisky would inherently include that the current value is  $I$ , and  $A$  and  $B$  are optional constants, a standard cycle  $T_o$  for adding said diluting liquid to said electrolytic solution is  $T_o=A/I+B$ , and wherein

Art Unit: 1742

said measured salt concentration is  $PVa$ , said objected salt concentration is  $SVa$ , and  $C$  and  $D$  are optional constants, said feed cycle  $T$  for adding the predetermined amount of said diluting liquid is,  $T = T_o \times (1 + C \times (PVa - SVa)) + D$ .

12. Regarding claim 5, the applicant admits (page 1 lines 10-24) that the method of the prior art would apply to an aluminum plate used for a substrate of a PS plate.

13. Regarding claim 6, the applicant admits (page 1 lines 24-28) that the method of the prior art would include hydrochloric acid.

### ***Response to Arguments***

14. Applicant's arguments filed 23 October 2006 have been fully considered but they are not persuasive. Please see reasons stated above.

### ***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas A. Smith whose telephone number is (571)-272-8760. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571)-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1742

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NAS

  
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